

**LISTING OF THE CLAIMS**  
**(including amendments, if any)**

1. **(currently amended)** A method implemented in a computer system, for clustering a string, the string including a plurality of characters, the method including:

identifying R unique n-grams  $T_{1...R}$  in the string;

for every unique n-gram  $T_S$ :

if a frequency of  $T_S$  in a set of n-gram statistics is not greater than a first threshold:

clustering the string with a cluster associated with  $T_S$ ;

otherwise:

for every other n-gram  $T_V$  in the string  $T_{1...R}$ , except  $S$ :

**if concluding that** the frequency of n-gram  $T_V$  is greater than the first threshold, **and in response:**

if the frequency of an n-gram pair  $T_S$ - $T_V$  is not greater than a second threshold:

clustering the string with a cluster associated with the n-gram pair  $T_S$ - $T_V$ ;

otherwise:

for every other n-gram  $T_X$  in the string  $T_{1...R}$ , except  $S$  and  $V$ :

clustering the string with a cluster associated with an n-gram triple  $T_S$ - $T_V$ - $T_X$ ;

**otherwise:**

**~~do nothing,~~**

where  $T_{1...R}$  is a set of n-grams, R is the number of elements in  $T_{1...R}$ , and  $T_S$ ,  $T_V$ , and  $T_X$  are members of  $T_{1...R}$ .

2. (original) The method of claim 1 further including compiling n-gram statistics.

3. (original) The method of claim 1 further including compiling n-gram pair statistics.

4. **(currently amended)** A method implemented in a computer system, for clustering a plurality of strings, each string including a plurality of characters, the method including:

identifying unique n-grams in each string; and

~~clustering each string with zero or more clusters associated with low frequency n-grams from that string; and~~

concluding that (a) none of the unique n-grams are low frequency n-grams and that

(b) one or more pairs of high frequency n-grams from the string are low

frequency pairs and, in response, clustering each string with ~~zero~~ one or more clusters associated with low-frequency pairs of high frequency n-grams from that string.

5. **(currently amended)** A ~~The method of claim 4 further including~~ implemented in a computer system, for clustering a plurality of strings, each string including a plurality of characters, the method including:

identifying unique n-grams in each string; and

concluding that (a) none of the unique n-grams are low frequency n-grams and that

(b) no pairs of high frequency n-grams from the string are low frequency

pairs and, in response, where a string does not include any low-frequency pairs of high frequency n-grams, associating that string with clusters associated with triples of n-grams including the pair.

6. (previously presented) A method implemented in a computer system, for clustering a string, the string including a plurality of characters, the method including:

- identifying  $R$  unique  $n$ -grams  $T_{1...R}$  in the string;
- for every unique  $n$ -gram  $T_S$ :
  - if a frequency of  $T_S$  in a set of  $n$ -gram statistics is not greater than a first threshold:
    - clustering the string with a cluster associated with  $T_S$ ;
  - otherwise:
    - for  $i = 1$  to  $Y$ :
      - for every unique set of  $i$   $n$ -grams  $T_U$  in the string  $T_{1...R}$ , except  $S$ :
        - if the frequency of the  $n$ -gram set  $T_S-T_U$  is not greater than a second threshold:
          - clustering the string with a cluster associated with the  $n$ -gram set  $T_S-T_U$ ;
    - if the string has not been associated with a cluster with this value of  $T_S$ :
      - for every unique set of  $Y+1$   $n$ -grams  $T_{UY}$  in the string  $T_{1...R}$ , except  $S$ :
        - clustering the string with a cluster associated with the  $Y+2$   $n$ -gram group  $T_S-T_{UY}$ ,

where  $T_{1...R}$  is a set of  $n$ -grams,  $R$  is the number of elements in  $T_{1...R}$ ,  $T_S$  and  $T_U$  are members of  $T_{1...R}$ ,  $T_{UY}$  is a subset of  $T_{1...R}$ , and  $i$  and  $Y$  are integers.

7. (original) The method of claim 6 where  $Y = 1$ .
8. (original) The method of claim 6 further including compiling n-gram statistics.
9. (original) The method of claim 6 further including compiling n-gram group statistics.
10. **(currently amended)** A computer program, stored on a tangible storage medium, for use in clustering a string, the program including executable instructions that cause a computer to:
- identify R unique n-grams  $T_{1...R}$  in the string;
  - for every unique n-gram  $T_S$ :
    - if a frequency of  $T_S$  in a set of n-gram statistics is not greater than a first threshold:
      - cluster the string with a cluster associated with  $T_S$ ;
    - otherwise:
      - for every other n-gram  $T_V$  in the string  $T_{1...R}$ , except  $S$ :
        - if concluding that** the frequency of n-gram  $T_V$  is greater than the first threshold, **and in response:**
          - if the frequency of an n-gram pair  $T_S$ - $T_V$  is not greater than a second threshold:
            - cluster the string with a cluster associated with the n-gram pair  $T_S$ - $T_V$ ;
        - otherwise
          - for every other n-gram  $T_X$  in the string  $T_{1...R}$ , except  $S$  and  $V$ :
            - cluster the string with a cluster associated with an n-gram triple  $T_S$ - $T_V$ - $T_X$ ;
- ~~otherwise:~~**
- ~~do nothing,~~**
- where  $T_{1...R}$  is a set of n-grams,  $R$  is the number of elements in  $T_{1...R}$ , and  $T_S$ ,  $T_V$ , and  $T_X$  are members of  $T_{1...R}$ .

11. (original) The computer program of claim 10 further including executable instructions that cause a computer to compile n-gram statistics.

12. (original) The computer program of claim 10 further including executable instructions that cause a computer to compile n-gram pair statistics.